Additional Area 3: Monterey Canyon Benthic Habitat

Monterey Canyon is the largest submarine canyon on the west coast of North America. This canyon is 470 km long, approximately 12 km wide at its widest point, and has a maximum rim to floor relief of 1700 m, making it much larger than Arizona's Grand Canyon. Soquel Canyon is an important area for several species of rockfish as well as pelagic species. These canyons contain by far the highest number and density of coral and sponge records in the Central Coast study area.

Key Ecological Features

- Major canyonhead
- Shark habitat
- Adjacent to major estuary
- High fish/bird diversity
- Corals and sponges
- Largest submarine canyon on west coast
- Wide depth range

Potential Anthropogenic Threats

- Commercial fishing
- Recreational fishing
- Seafloor bottom contact
- Coastal runoff
- Localized depletion of forage base

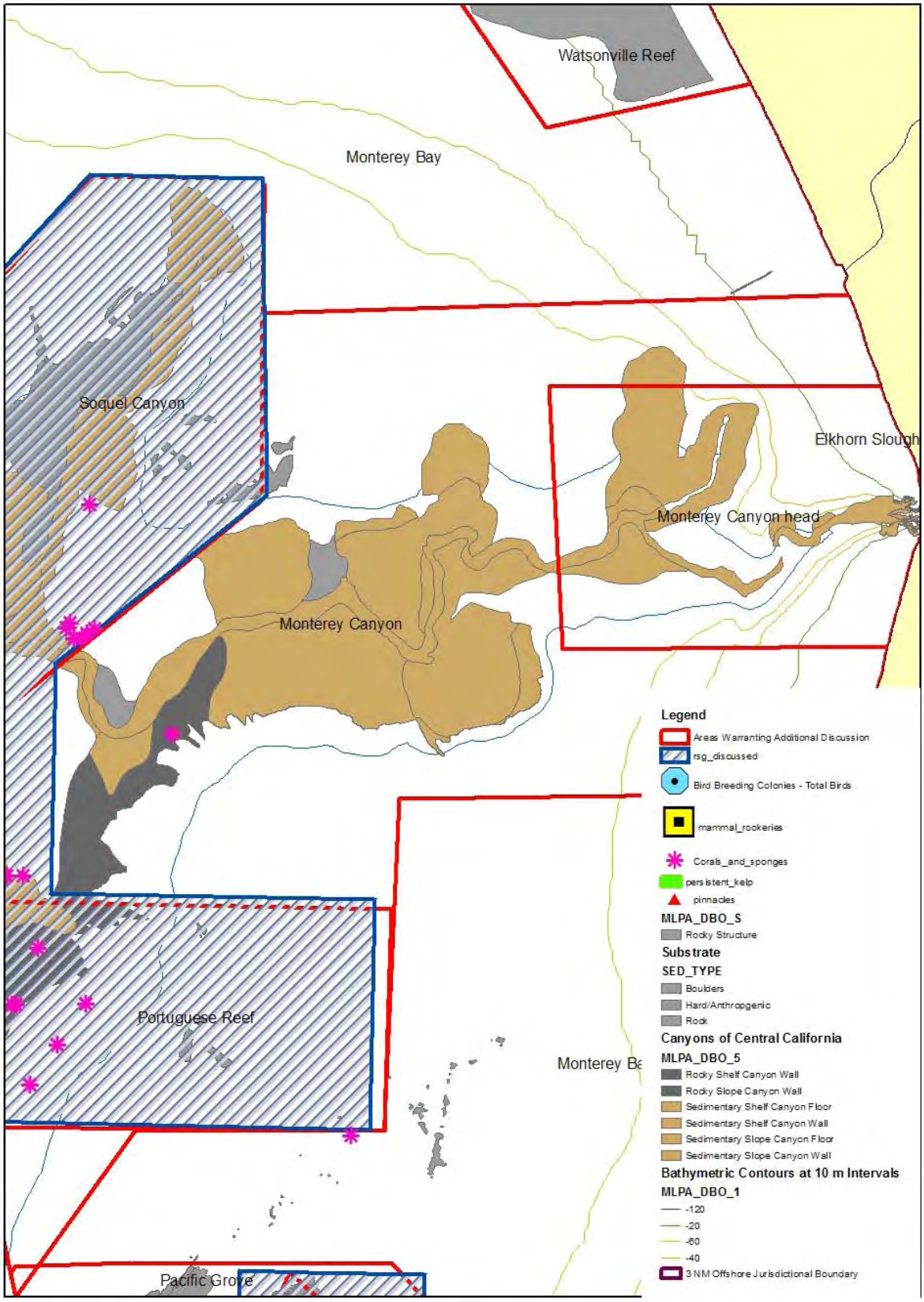
Management Objectives

- Protect seafloor and other biogenic habitat
- Protect benthic invertebrates and groundfish
- Protect forage base for top predators

Recommended Management Measures:

- Coastal Pelagic Species Harvest prohibited
- Commercial groundfish harvest prohibited
- Bottom contact with commercial fishing gear (excluding Dungeness crab and prawn pots) prohibited

Additional Area 3: Monterey Canyon Benthic Habitat Map



Additional Area 4: Monterey Peninsula Offshore Reefs

The Monterey Peninsula and Carmel Bay are surrounded by the most extensive complex of rocky substrate in deep and shallow waters, as well as shale beds that host unique species assemblages. Carmel Bay also includes numerous offshore pinnacles.

Key Ecological Features

- Largest reef complex on Central Coast
- Unique geology (i.e. granite outcrops/shale beds)
- Rocky reefs at various depths
- Unique invertebrate assemblages
- High fish/bird diversity
- Habitat for overfished groundfish
- High density of pinnacles
- Offshore rocky canyon

Potential Anthropogenic Threats

- Commercial fishing
- Recreational fishing
- Seafloor bottom contact

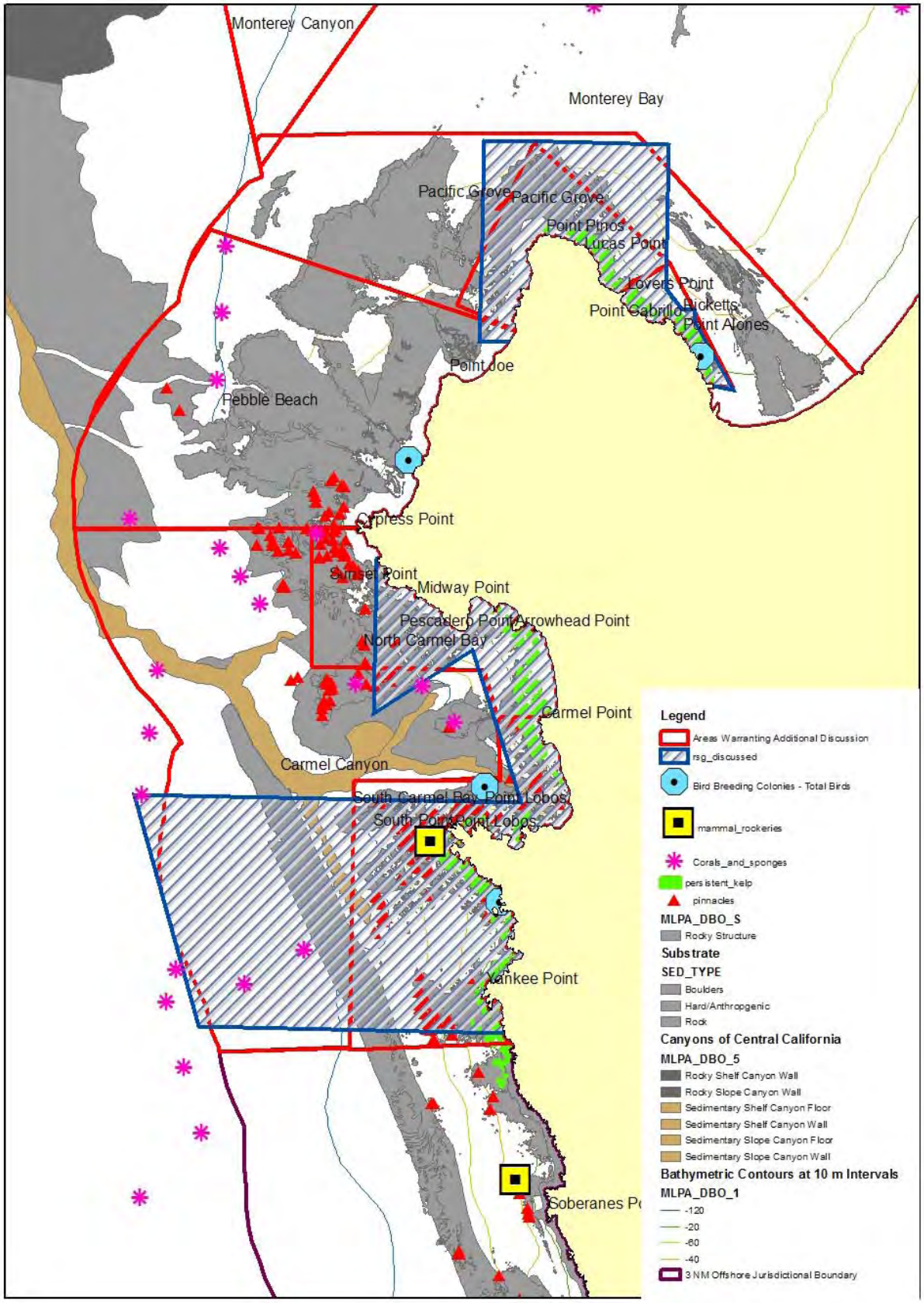
Management Objectives

- Protect seafloor and other biogenic habitat

Recommended Management Measures

- Bottom contact with commercial fishing gear (excluding Dungeness crab and prawn pots) prohibited
- Commercial kelp harvest prohibited

Additional Area 4: Monterey Peninsula Offshore Reefs Map



Additional Area 5: Hurricane Point/Castle Rock Seabird Complex

This complex of nearshore rocks and mainland cliffs hosts one of the most diverse assemblages of seabirds between the Farallon and Channel Islands, including Common Murre, Brandt's Cormorant, Pelagic Cormorant, Pigeon Guillemot, Cassin's Auklet, Western Gull and the rare Ashy Storm-Petrel. The Common Murre colony is the southernmost of the species. This murre colony declined by about 60% in the 1980s as a result of gill-net and oil spill mortality. Many efforts are being expended to protect and restore this colony to its former size. The colony has been increasing since the early 1990s, but is still well below where it was in the early 1980s. The colony is very sensitive to human disturbance. Close approach by boats has caused birds to flush off the rocks during the breeding season, and nests have been lost as a result. Forage fish important to the seabirds nesting on the rocks include rockfish, anchovies, sardines, and squid. This colony typically experiences lower breeding success than other central California colonies, and prey base may be a factor.

Key Ecological Features

- Major sensitive seabird colony including common murres
- Nearshore rocky reefs
- High fish/bird diversity

Potential Anthropogenic Impacts

- Commercial fishing
- Recreational fishing
- Kelp harvesting
- Seafloor bottom contact
- Vessel disturbance
- Depletion of forage base

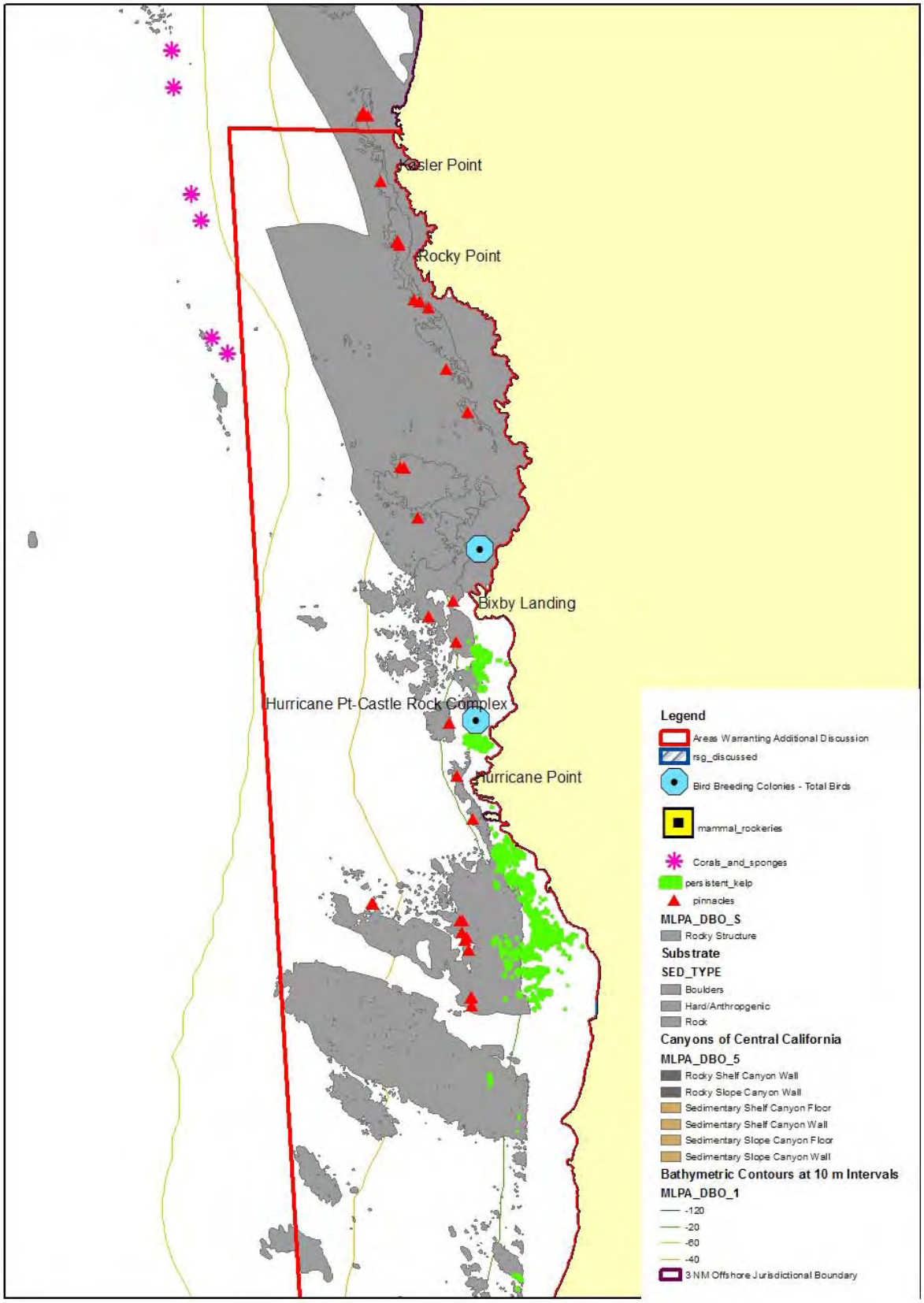
Management Objectives

- Protect seabird/mammal colonies from human disturbance
- Protect seafloor and other biogenic habitat
- Protect forage base for top predators

Recommended Management Measures

- Recreational groundfish take limited and monitored to ensure production of large, old, reproductive fish as identified by Berkley et al. (2004)
- No vessel traffic within ¼ mile from shore
- Coastal Pelagic Species harvest prohibited
- Commercial kelp harvest prohibited

Additional Area 5: Hurricane Point/Castle Rock Seabird Complex Map



Additional Area 6: Cape San Martin

The Cape San Martin region contains diverse marine habitat and many ecologically significant features. The marine waters off Cape San Martin are an upwelling zone. The shelf break is located within 2 miles of shore; as such the region contains a high diversity of habitat as both deep slope and shallow shelf occur within the area. The head of Mill Creek submarine canyon extends into the area. Both shelf and nearshore hard bottom seafloor habitat are present. Persistent kelp beds occur in the nearshore and habitat-forming invertebrates such as sea pens and hexactinellid sponges have been recorded on the shelf and slope. Much of area contains high-suitability habitat for adult and juvenile overfished groundfish species. On the cliffs and offshore rocks are several major nesting seabird colonies including two large colonies of Brandt's cormorant and the second largest colony of western gulls in the Central Coast region. Also in the area are a rookery for northern elephant seals, haulouts for California sea lions and harbor seals, and high relative density of sea otters.

Key Ecological Features

- Major nesting seabird colonies
- Northern elephant seal rookery
- Habitat-forming invertebrates
- Upwelling zone
- High density sea otter habitat
- Overfished groundfish habitat
- Persistent kelp beds
- Nearshore and shelf hard substrate

Potential Threats

- Commercial fishing
- Recreational fishing
- Kelp harvesting
- Seafloor bottom contact
- Vessel disturbance
- Localized depletion of forage base

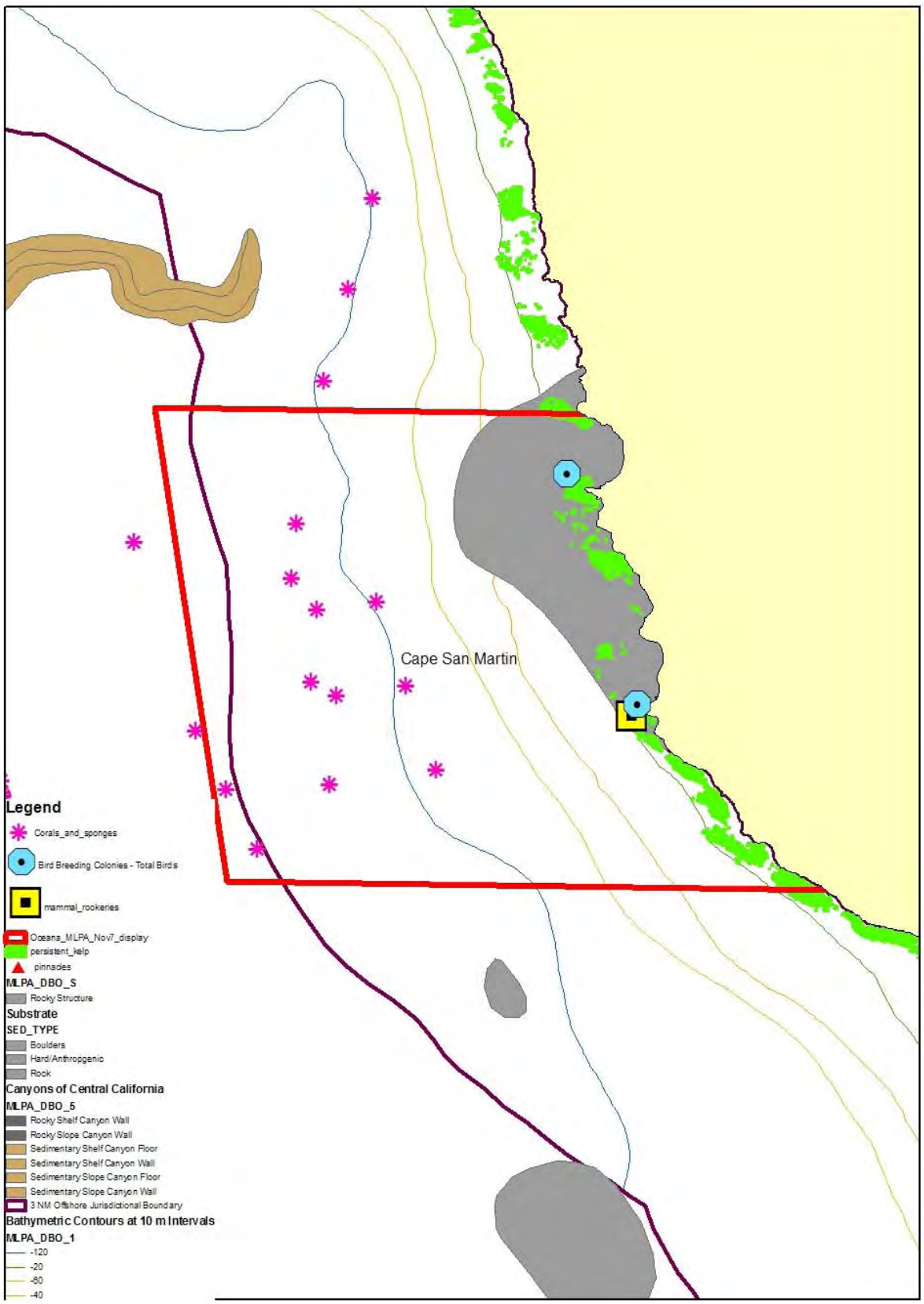
Management Objectives

- Protect benthic invertebrates and groundfish
- Protect seafloor and other biogenic habitat
- Protect seabird/mammal colonies from human disturbance
- Protect forage base for top predators

Recommended Management Measures

- Coastal Pelagic Species harvest prohibited
- Kelp harvesting prohibited
- Commercial groundfish take prohibited
- Recreational groundfish take limited and monitored to ensure production of large, old, reproductive fish as identified by Berkley et al. (2004)

Additional Area 6: Cape San Martin Map

- 

Additional Areas 7 & 8: Pismo-Oceano Beach and Point Sal
This region contains a shallow sandy shelf which is an important foraging area for seabirds. The area attracts tens of thousands of sooty shearwaters, which have declined in California.

Key Ecological Features
- Major seabird staging/feeding area
- Estuary
- Freshwater plume
- High density/diversity of seabirds

Potential Anthropogenic Impacts
- Commercial fishing
- Localized depletion of forage base

Management Objectives
- Improve water quality
- Protect seafloor habitat
- Protect forage base

Recommended Management Measures
- Coastal Pelagic Species harvest prohibited
- Bottom contact prohibited

Point Sal
Rocky reef habitat is located off Point Sal. The waters offshore of Point Sal contain a high diversity of fish species documented from NOAA trawl surveys. Point Sal also has a nesting colony of pigeon guillemots and rhinoceros auklets (a state species of special concern) and is an important pinniped haulout.

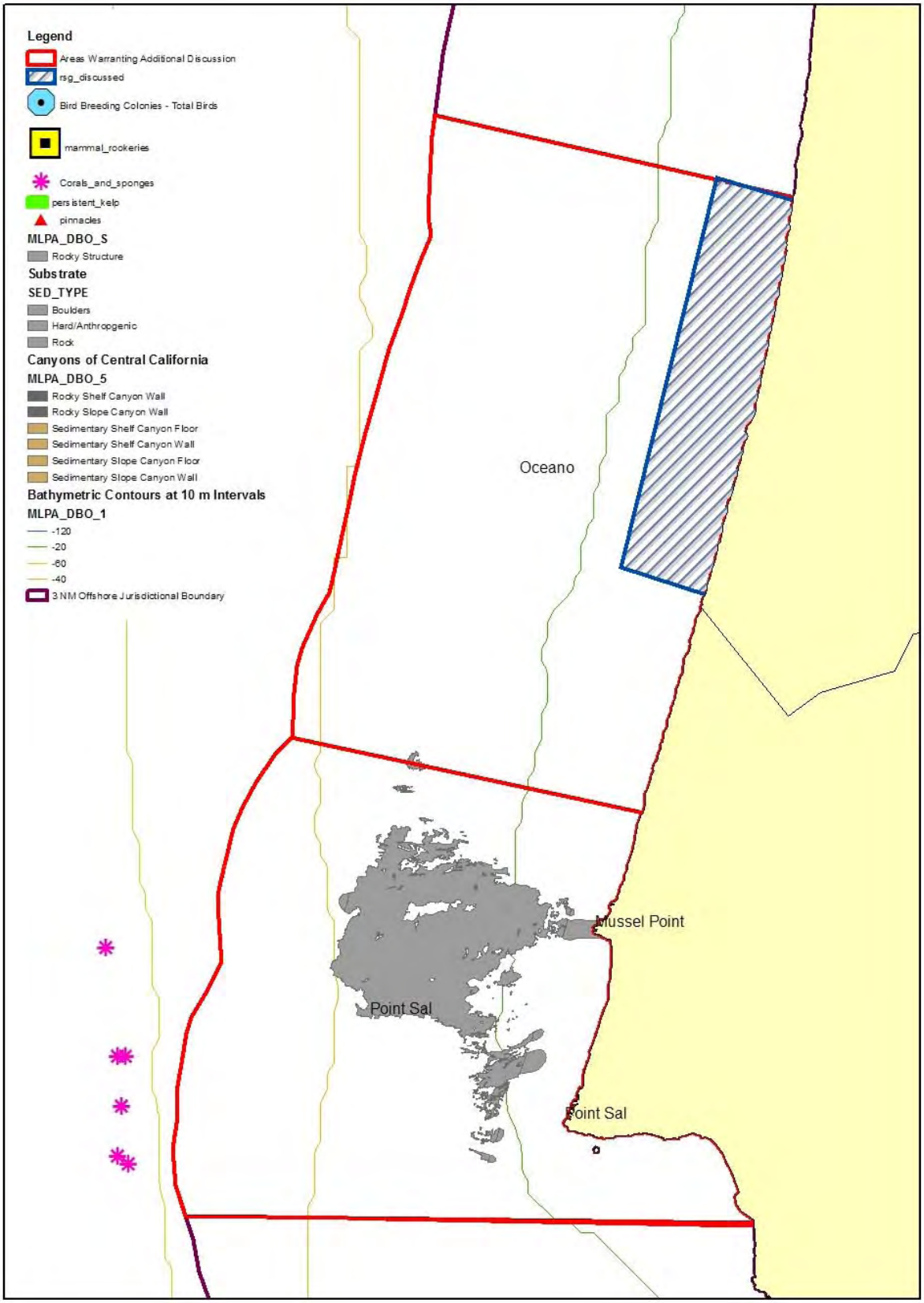
Key Ecological Features
- Nearshore hard substrate
- Shelf hard substrate
- Habitat for groundfish

Potential Anthropogenic Impacts
- Commercial fishing
- Recreational fishing
- Seafloor bottom contact

Management Objectives
- Protect seafloor and other biogenic habitat
- Protect benthic invertebrates and groundfish

Recommended Management Measures
- Commercial groundfish take prohibited
- Recreational groundfish take limited and monitored to ensure production of large, old, reproductive fish as identified by Berkley et al. (2004)
- Kelp harvest prohibited

Additional Areas 7 & 8: Pismo-Oceano Beach and Point Sal Map



Additional Area 9: Point Arguello (Safety Zone 5)

The region surrounding Point Arguello is a region of rich biological diversity caused by the meeting of the cold California Current and warmer waters of Santa Barbara Channel. The area is a biogeographic transition zone. Point Arguello has one of the largest colonies of pigeon guillemots in California and is a nesting site for rhinoceros auklets, a state species of special concern. The waters offshore are an important foraging area for thousands of sooty shearwaters, which have declined in recent years. Northern Elephant seals have established a rookery in the area. Vandenberg Military base is located in the area, and restrictions have created a de-facto marine reserve. Nearshore and shelf rocky reefs are home to invertebrates such as red and black abalone, lingcod, and black, blue, brown, copper, olive and vermillion rockfish.

Key Ecological Features

- Major seabird nesting colony
- Important feeding area for seabirds
- Upwelling zone
- Nearshore hard substrate
- Shelf hard substrate
- High density sea otter habitat
- Persistent kelp beds

Potential Anthropogenic Impacts

- Commercial fishing
- Recreational fishing
- Vessel disturbance
- Localized depletion of forage base

Management Objectives

- Protect seabirds and marine mammal colonies from human disturbance
- Protect forage base for top predators

Recommended Management Measures

- Coastal Pelagic Species harvest prohibited

Additional Area 9: Point Arguello (Safety Zone 5) Map